DETAILED ACTION

1.   Claims 11-22 are pending in this application.

2.   Claims 21-22 have been added. [10/31/2005]

3.   Examiner acknowledges applicant's amendment filed on 10/31/2005.

4.   Examiner acknowledges applicant's amendment filed on 06/03/2005.

5.   Claims 11-20 have been added. [06/03/2005]

6.   Claims 1-10 have been cancelled. [06/03/2005]

7.   Examiner acknowledges applicant's substitute specification filed on

06/03/2005.

Priority

8.   Acknowledgement is made of applicant's claim for foreign priority under

35 U.S.C. 119(a)-(d) based on German Patent Application No. 102 56 935.5 filed

on 12/05/2002.

Information Disclosure Statement

9.   The information disclosure statement filed on 10/31/2005 and 06/03/2005

is in compliance with the provisions of 37 CFR 1.97 and has been considered

and a copy is enclosed with this Office Action.

Drawings

10.   The drawings filed on 06/03/2005 are <u>acceptable</u> for examination purpose.

Claim Objections

11.   Claims 21-22 are objected to because, in the preliminary amendment filed

on 10/31/2005, [added claims 21-22] claims 21 and 22 are exactly the same,

i.e. duplicate claims, as claims 18 and 19 as filed on 06/03/2005. Appropriate

correction is required.

Claim Rejections - 35 USC § 102

12.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13.   Claims 11-13, 18, 20, and 21 are rejected under 35 U.S.C. 102(e) as

being anticipated by Bennett et al., [hereafter Bennett], US Patent No.

6,633,846, filed on November 12, 1999

14.   As to claim 11, Bennett teaches 'a device,' [col 10, line 50-55] such as a

computer peripheral or a cell-phone, for speech recognition, comprising;

        'a speech recognition unit recognizing a designation of a user language of

the device to be set, from among the designations of settable user languages of

the device that can be recognized by said speech recognition unit, each

designation of each settable user language being in the settable user language.'

[col 6, line 7-11; col 8, line 32-40] Bennett teaches a speech recognition system

that contains a language processor for recognizing languages, as detailed in

col 6, line 11. Further, Bennett teaches a user's input in the user's language is

received, the speech is recognized, and an output is presented in the user's

language, as detailed in col 8, line 37-40, where the output is the language

determined by the speech recognition system and corresponds to the

designations of a settable user language.

'a language setting unit setting a user interface language of the device to

the user language recognized by said speech recognition unit.' [col 17,

line 32-39] Bennett teaches a language processor where a user's input in the

user's language is received, the language is recognized, as detailed in col 6,

line 11, and displays outputs in the user's language, as detailed in col 17,

line 37-39.

15.   As to claim 12, Bennett teaches 'said speech recognition unit has a single-

word recognizer.' [col 15, line 21-22] Bennett teaches recognizing a single best

word.

16.   As to claim 13, Bennett teaches 'said speech recognition unit as a

phoneme-based recognizer.' [col 15, line 19-20] Bennett teaches a network that

includes a phoneme-based HMM, as detailed in col 15, line 19-20.

17.   As to claim 18, Bennett teaches 'the device is a mobile terminal.' [col 10, line 50-55] Bennett teaches using a mobile terminal such as a cell-phone.

18.   As to claim 20, Bennett teaches 'a method for setting a user language of a device.' [col 5, line 65-67; col 6, line 10-11; col 17, line 32-39] Bennett teaches using a natural language processor, as detailed in col 17, line 32, comprising;

       'recognizing, by speech recognition in the device, a designation of a user language spoken in the user language from among the designations of settable user languages that can be recognized in the settable user languages by the device.' [col 6, line 7-11; col 8, line 32-40] Bennett teaches a speech recognition method that contains a language processor for recognizing languages, as detailed in col 6, line 11. Further, Bennett teaches a user's input in the user's language is received, the speech is recognized, and an output is presented in the user's language, as detailed in col 8, line 37-40, where the output is the language determined by the speech recognition method and corresponds to the designations of a settable user language.

       'setting the user language, obtained by said recognizing, as a user interface language of the device.' [col 17, line 32-39] Bennett teaches a language processor where a user's input in the user's language is received, the language is recognized, as detailed in col 6, line 11, and displays outputs in the user's language, as detailed in col 17, line 37-39.

19.   As to claim 21, Bennett teaches 'the device is a mobile terminal.' [col 10,

line 50-55] Bennett teaches using a mobile terminal such as a cell-phone.

Claim Rejections - 35 USC § 103

20.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

21.   Claims 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bennett et al., [hereafter Bennett], US Patent No.

6,633,846, filed on November 12, 1999, in view of D'hoore et al., [hereafter

D'hoore], US Patent No. 6,085,160, published on July 4, 2000.

22.   As to claim 14, Bennett teaches 'a device.' [col 10, line 50-55]

It is noted, however, that Bennett does not teach 'said speech recognition

unit uses a multilingual Hidden Markov Model.'

On the other hand, D'hoore teaches 'said speech recognition unit uses a

multilingual Hidden Markov Model.' [fig 2; fig. 3; col 1, line 20-23] D'hoore

teaches using acoustic models of phonemes for multiple languages, as detailed

in fig. 2 and fig. 3, where the acoustic models are modeled using a Hidden

Markov Model, as detailed in col 1, line 20-23.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the teachings of D'hoore into the speech recognition system of Bennett because both Bennett, D'hoore are directed to using phoneme-based Hidden Markov Models for speech recognition, specifically, Bennett teaches a network including a phoneme-based Hidden Markov Model [Bennett: col 15, line 19-20], while D'hoore teaches a speech recognition system based on a Hidden Markov Model phoneme-based recognition engine. [D'hoore: col 3, line 30-32]

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of applicant's invention to use the speech recognition system of Bennett to conduct speech recognition using acoustic models of phonemes for multiple languages, as taught by D'hoore [D'hoore: fig 2, fig 3] because that would have allowed users of Bennett to specifically conduct multilingual, phoneme based speech recognition [D'hoore: col 1, line 20-23; col 3, line 30-32], thereby improving speech recognition by using one multilingual acoustic model to identify a universal set of phonemes, enabling the recognition of different phonemes in different languages using one universal model, [D'hoore: fig 3] instead of having different models for different languages.

Thus, it would have been obvious to one of the ordinary skill in the art to use the multilingual Hidden Markov Model to identify a universal set of phonemes, as taught by D'hoore [fig 2, fig 3; col 1, line 20-23; col 3, line 30-32] to improve phoneme based speech recognition in Bennett. [col 15, line 19-20] Using the technique of utilizing a multilingual phoneme based Hidden Markov

Model instead of a phoneme based Hidden Markov Model to improve speech

recognition of Bennett would have been obvious to one of the ordinary skill.

23.   As to claim 15, D'hoore teaches 'said speech recognition unit uses a

combined Hidden Markov Model which contains phoneme sequences from the

settable user languages.' [fig 3; col 3, line 10-18] D'hoore teaches using acoustic

models of phonemes for multiple languages, as detailed in fig. 3 and in col 3,

line 10-18, where the acoustic model is a combination of speech of several

languages and covers all possible phonemes in the languages.

24.   As to claim 17, D'hoore teaches 'said speech recognition unit uses a

language-specific phoneme set, in which the phonemes for the designations of

the settable user languages are modeled using the language-specific phoneme

set of the language-specific Hidden Markov Model.' [D'hoore: fig 2; col 1,

line 10-11, 20-23; col 2, line 31-32; col 2, line 63-col 4, line 2; col 5, line 15-19]

D'hoore teaches current speech recognition systems support only individual

languages, as disclosed in col 1, line 10-11, in which current single language

acoustic models are trained on speech from a target language that uses Hidden

Markov Models, as detailed in col 1, line 20-23, where the language that uses

Hidden Markov Models corresponds to a language-specific Hidden Markov

Model. Further, D'hoore teaches phonemes from an acoustic model are trained

only on speech samples from a single language, as detailed in figure 2 and in

col 5, line 15-19, where the phonemes from an acoustic model correspond to the

phonemes for the designations of the settable user languages. Even further,

D'hoore discloses the single language acoustic model having phoneme sets for

each specific acoustic language model, where the phonemes are modeled using

the phoneme set, as detailed in figure 2.

25.   Claims 16, 19, and 22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bennett et al., [hereafter Bennett], US Patent No.

6,633,846 filed on November 12, 1999, in view of Riis et al., [hereafter Riis],

US Patent No. 7,043,431, filed on August 31, 2001

26.   As to claim 16, Bennett teaches 'a device.' [col 10, line 50-55]

It is noted, however, that Bennett does not teach 'wherein in the combined

Hidden Markov Model, degrees of match for phoneme sequences from the

settable user languages are scaled.'

On the other Hand, Riis teaches 'wherein in the combined Hidden Markov

Model, degrees of match for phoneme sequences from the settable user

languages are scaled.' [Riis: col 5, line 33-35] Riis teaches giving a weighted

contribution to the score of the word, where the score of the word corresponds to

the degree of matching for phoneme sequences and the weighted contribution

corresponds to the scaling of the degrees of matching.

It would have been obvious to one of the ordinary skill in the art at the time

of applicant's invention to incorporate the teachings of Riis into the speech

recognition of Bennett because both Bennett, Riis are directed to using Hidden

Markov Models for speech recognition, specifically, Bennett teaches a

phoneme-based Hidden Markov Model for recognizing words [Bennett: col 15,

line 20-22], while Riis teaches utilizing a Hidden Markov Model based multilingual

system for speech recognition. [Riis: col 3, line 9-10]

Therefore, it would have been obvious to one of the ordinary skill in the art

at the time of applicant's invention to use the speech recognition system of

Bennett to conduct speech recognition in addition to giving weighted contribution

to scores of words, as taught by Riis because that would have allowed users of

Bennett to specifically not only conduct speech recognition, but also allow the

weighing and scoring of words [Riis: col 5, line 33-35], thereby enabling improved

speech recognition by identifying the score/accuracy of different segments of

speech.

Thus, it would have been obvious to one of ordinary skill in the art to give

weighted contributions to the score of words, as taught by Riis [col 5, line 33-35]

to improve speech recognition in Bennett. [col 6, line 7-11; col 8, line 32-40]

Using the technique of weighing and scoring different text segments to improve

speech recognition of Bennett would have been obvious to one of ordinary skill.

27.   As to claim 19, Riis teaches 'an output unit outputting a request to speak

the designation of the user language to be set.' [Riis: col 3, line 5-7, line 9-11]

Riis teaches a system for speech recognition in which an acoustic input is

received in order to process a speech command, as detailed in col 3, line 5-7,

line 9-11, where the speech command corresponds to the request to speak and

the acoustic input corresponds to the designation of the user language to be set

spoken by a user.

28.   As to claim 22, Riis teaches 'an output unit outputting a request to speak

the designation of the user language to be set.' [Riis: col 3, line 5-7, line 9-11]

Riis teaches a system for speech recognition in which an acoustic input is

received in order to process a speech command, as detailed in col 3, line 5-7,

line 9-11, where the speech command corresponds to the request to speak and

the acoustic input corresponds to the designation of the user language to be set

spoken by a user.

Conclusion

The prior art made of record

a.   US Patent No.   6,633,846

a.   US Patent No.   6,085,160

b.   US Patent No.   7,043,431

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

a.   US Patent No.   5,758,023

b.   US Patent No.   5,778,341

c.   US Patent No.   6,212,500

d.   US Patent No.   6,460,017

e.   US Patent No.   6,549,883

f.   US Patent No.   6,999,932

g.   US Pub. No.   2002/0091511

h.   EP 0685835 A1

i.   EP 0562138 A1

j.   EP 0570660 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARJOEL RIO whose telephone number is (571)270-3953. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Srirama Channavajjala can be reached on (571)272-4108. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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